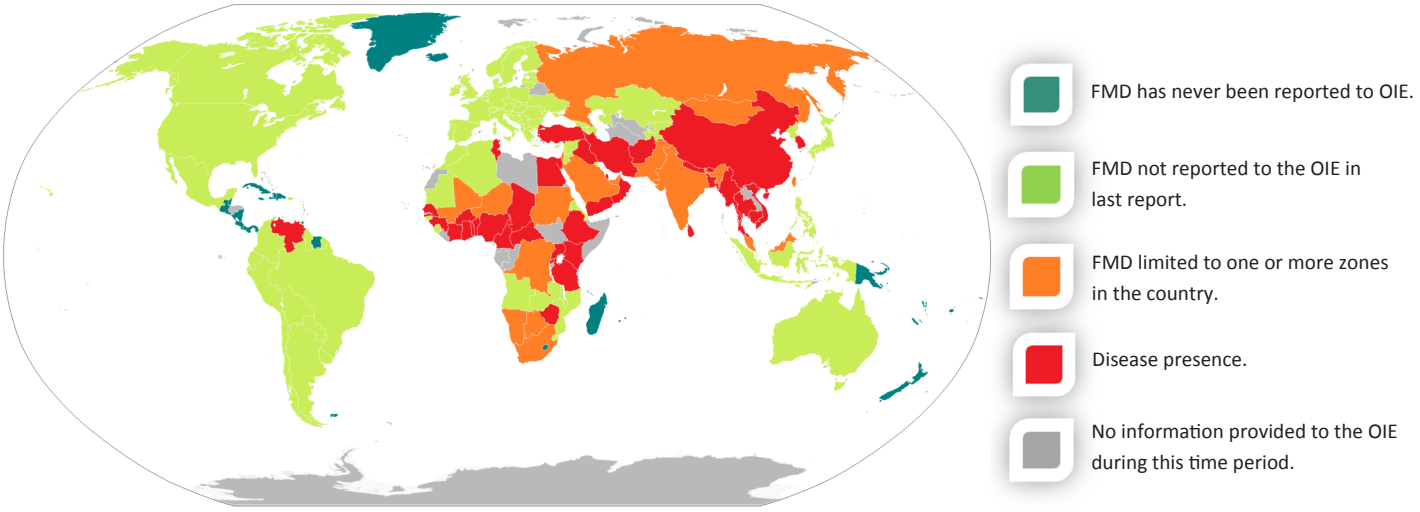
This ready reference guide provides an overview of FMD in the world: its distribution, recent outbreaks, recognition of freedom from FMD by the United States and the World Organization for Animal Health (OIE), and the role of vaccination in FMD control.

FMD in the World: Distribution

Though FMD has not been detected in the United States since 1929, it remains endemic around the world. Depending on the species infected, age of the animal, and topotype of the FMD virus, morbidity rates can reach 90 percent. Mortality is typically 1 percent in adult animals and can be as high as 50 percent in young animals. FMD is easily spread by infected animals, aerosols, and contact with contaminated fomites (such as clothing, feed, and equipment). FMD is not a threat to public health.

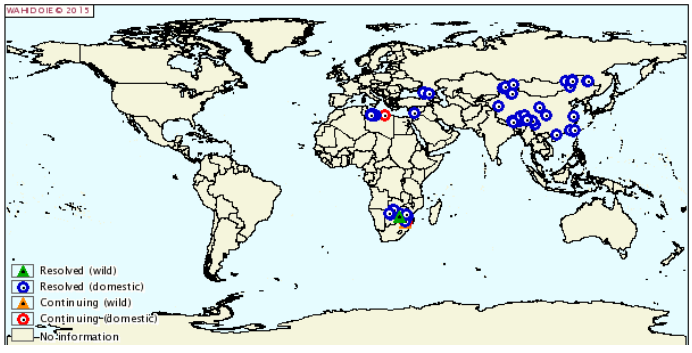
The OIE is the international body responsible for improving animal health. Members self-report FMD freedom, outbreaks, or sustained disease presence to the OIE. The map presented here illustrates Member-reported FMD situations from 2013—2014, according to the OIE Disease Timelines. This figure illustrates the most recent disease report submitted to the OIE. For some Member Countries, this may be 2013, for other countries the last report was in 2014.



Source: World Animal Health Information Database (WAHID) 2013-2014: Disease Timelines.

FMD in the World: Recent and Ongoing Outbreaks

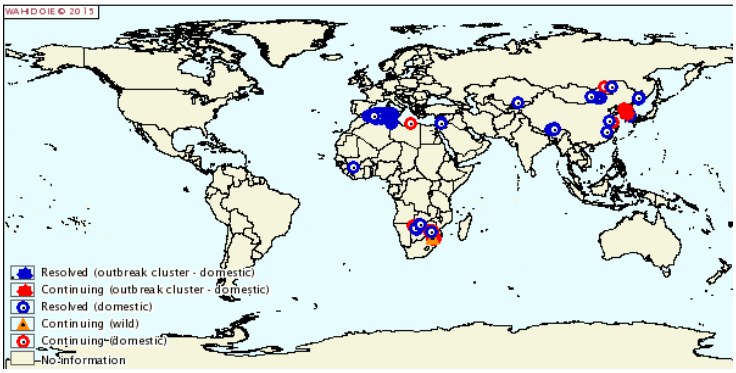
2013 FMD Outbreaks



The blue dots are resolved outbreaks; the red are continuing outbreaks. Both the red and blue dots represent outbreaks in domestic livestock only.

During 2013, there were 195 outbreaks of FMD reported to the OIE from 13 Member Countries. Of these 195, 67 outbreaks have been resolved since that time. In 2014, there were 779 FMD outbreaks reported to the OIE from 18 Member Countries. Of these reported outbreaks, 608 have been resolved according to reports submitted to the OIE by Member Countries.

2014 FMD Outbreaks



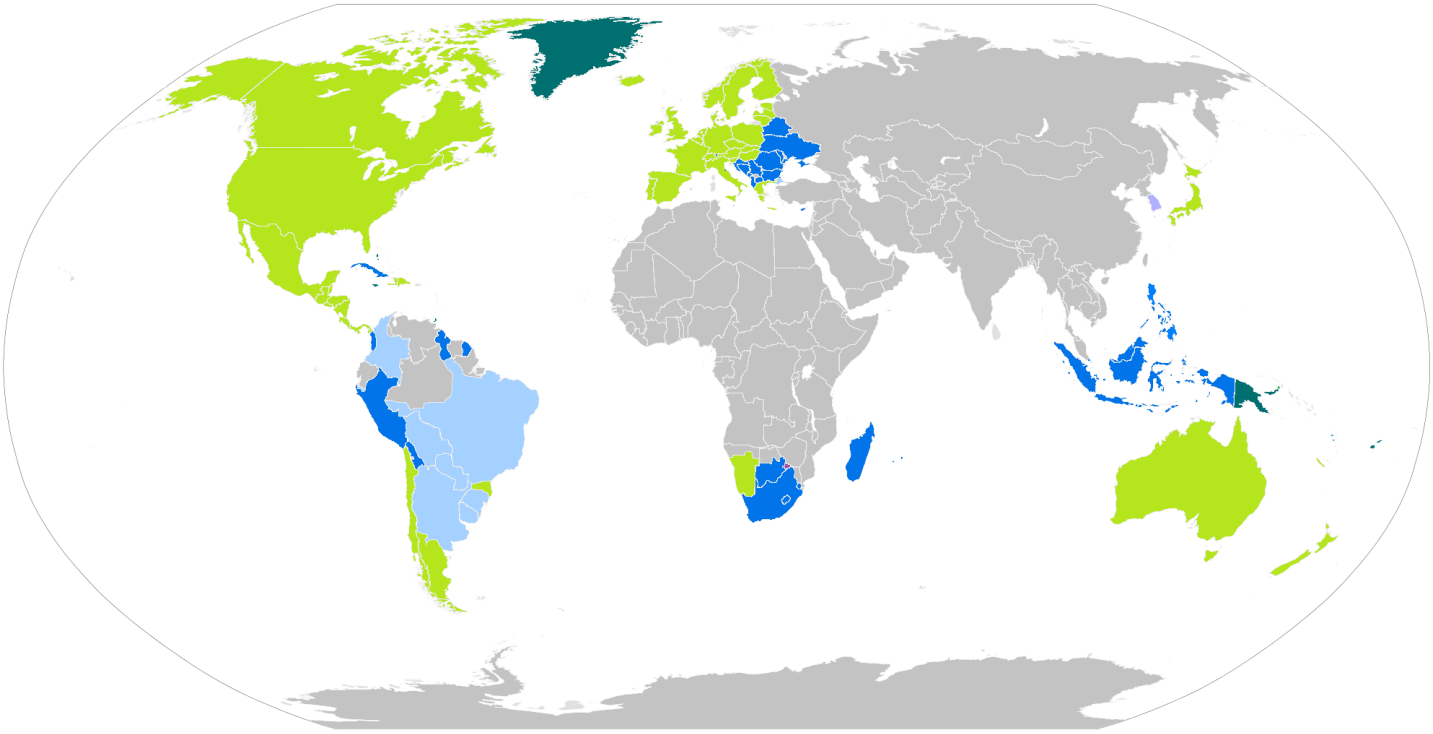
Source: WAHID 2015: Disease Outbreak Maps.

United States and OIE Recognition of FMD Freedom

Both the OIE and the United States officially recognize FMD-status for purposes of trade. The United States recognizes 54 countries and/or territories as FMD-free without vaccination. The OIE recognizes 66 countries as FMD-free without vaccination. The United States recognizes 3 countries that have FMD-free zone(s) without vaccination; the OIE recognizes 11 countries that have FMD-free zone(s) without vaccination. The OIE recognizes 1 country as FMD-free with vaccination and 8 countries that have FMD-free zone(s) with vaccination. The United States currently does not recognize any zones or countries as FMD-free with vaccination as illustrated in the map below. However, countries may petition for safe trade status which allows the importation of certain products with low levels of risk. For example, while we do not recognize Uruguay as FMD-free, the United States does import aged raw beef from Uruguay

At this time, a Botswana FMD-free zone without vaccination is suspended; South Korea has had their FMD-free country with vaccination status suspended due to ongoing outbreaks.

FMD-status determinations are based on a number of factors, many of which are shared by both the OIE and the United States in their evaluations. Factors include veterinary infrastructure, disease control program, vaccination status, animal movement, livestock demographics, surveillance activities, diagnostic and laboratory capabilities, and emergency response capacity. For information on how the United States evaluates FMD-status, please see 9 Code of Federal Regulations 92.2.



United States: Country/zone free *without* vaccination.

United States & OIE: Country/zone free *without* vaccination.

OIE: Country/zone free *without* vaccination.

OIE: Country/zone free *with* vaccination.

OIE: Suspension of status free country/zone *without* vaccination (single zone in Botswana).

OIE: Suspension of status free country/zone *with* vaccination (South Korea).

No recognized status by the United states or OIE.

Time to Regain FMD Freedom

How long it takes to regain disease freedom from FMD varies due to a number of factors, including whether or not the country requesting recognition turned in their paperwork in a timely manner. For countries with relatively recent outbreaks, the following table presents the difference in the time to regain freedom between the United States and the OIE. The OIE recognizes FMD-freedom through passage of a resolution at the OIE World Assembly following the recommendation of the OIE Scientific Commission. The United States recognizes FMD-freedom through a science- and risk-based evaluation and a public rule-making process, available through the Federal Register.

Country	Outbreak Timeframe (Date of Initial Detection, Date of Last Case as reported to OIE)	OIE Scientific Commission Disease Freedom Recognition (days since last case)	U.S. Disease Freedom Recognition—Effective Date (days since last case)	Difference between U.S. and OIE
Japan	March 8–May 11, 2000 *(64 days)*	September 26, 2000 *(138 days)*	January 7, 2002 *(606 days)*	468 days
Rep. of Korea (inc. Vaccinate-to-Kill)	March 20–April 15, 2000 *(26 days)*	September 19, 2001 [1] *(522 days)*	NA	NA
Rep. of Korea	May 2–June 23, 2002 *(52 days)*	November 29, 2002 *(159 days)*	NA[2]	NA
United Kingdom	February 20–September 30, 2001 *(222 days)*	January 22, 2002 *(114 days)*	December 17, 2002 *(443 days)*	329 days
France	March 12–23, 2001 *(11 days)*	September 19, 2001 *(180 days)*	November 5, 2001 *(227 days)*	47 days
Ireland	March 20–22, 2001 *(2 days)*	September 19, 2001 *(181 days)*	November 5, 2001 *(228 days)*	47 days
The Netherlands (inc. Vaccinate-to-Kill)	March 21–April 22, 2001 *(32 days)*	September 19, 2001 *(150 days)*	January 9, 2002 *(262 days)*	112 days
United Kingdom	July 29–September 30, 2007 *(63 days)*	February 21, 2008 *(144 days)*	January 8, 2009 *(466 days)*	322 days
Japan (inc. Vaccinate-to-Kill)	April 20– July 5, 2010 *(76 days)*	February 4, 2011 *(214 days)*	August 17, 2012 *(774 days)*	560 days

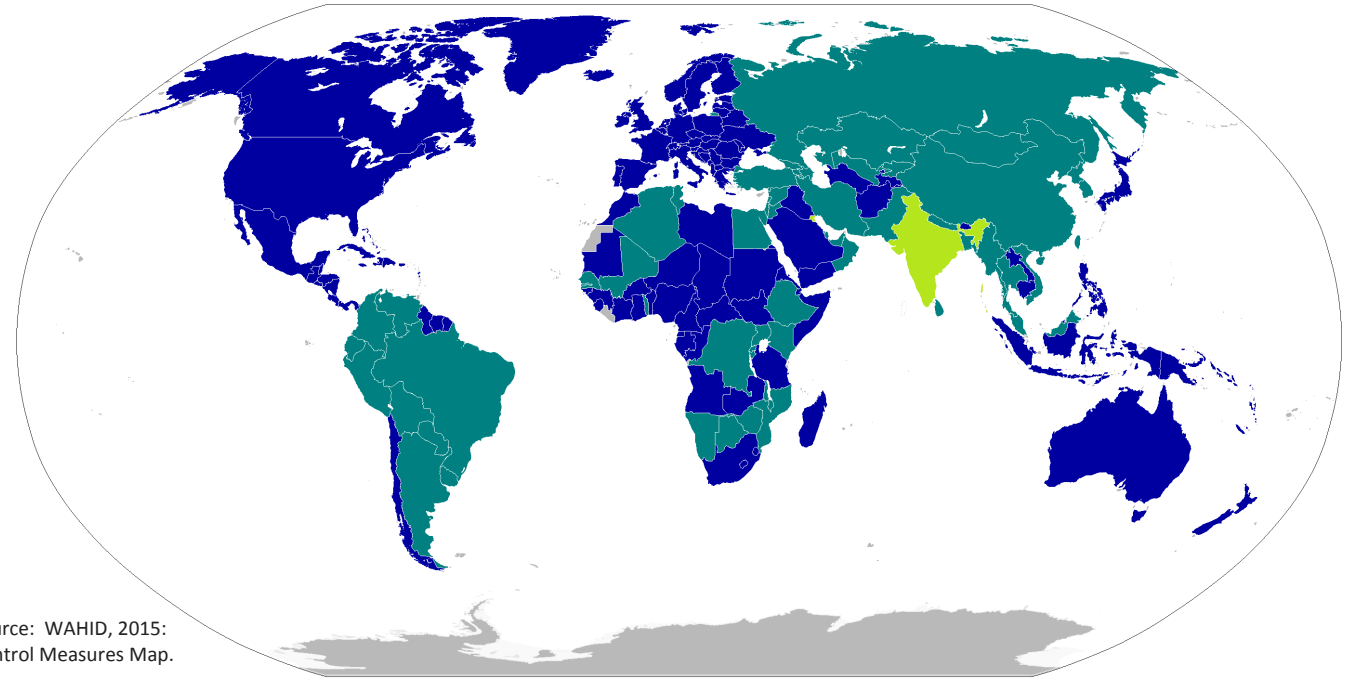
On average, the OIE recognizes FMD-freedom about 6 months (200 days) after the last reported case of FMD, while the United States recognizes freedom approximately 14 months following the last case (429 days). The difference between OIE and U.S. recognition of FMD-freedom ranges from 47 days to 560 days, with a average difference of 269 days. Anecdotally, emergency vaccination may increase the time to both OIE and U.S. recognition of FMD-freedom. For example, comparing Japan (2000) without vaccination and Japan (2010) with emergency vaccination (to kill), the time to recovery of U.S. freedom was longer in the outbreak that employed emergency vaccination-to-live: 774 days (2010) compared to 606 days (2000). Similarly, the time to recovery of OIE freedom was also slightly longer; 214 days (2010) compared to 138 days (2000).

[1] Time to regain disease freedom recognition from the OIE only. Status later suspended at the World Assembly due to an outbreak on May 4, 2002.

[2] A rule published in the Federal Register December 28, 2009 (effective date January 12, 2010) recognized Korea (Rep. of) as FMD-free. However, due to an outbreak reported January 6, 2010, their FMD-free status has been indefinitely delayed (75 Federal Register 1697; January 13, 2010). The OIE has also suspended their free status effective November 29, 2010.

Routine FMD Vaccination in the World

Routine vaccination is often used in free countries/zones (with vaccination) to maintain FMD-free status and in endemic countries to control the virus. This map depicts those countries that routinely perform FMD vaccination. It does not differentiate between countries that utilize vaccination to maintain FMD-freedom (such as Uruguay) and those that are currently attempting to regain FMD-freedom through vaccination (such as South Korea). Similarly, countries with FMD-free zones, with or without vaccination, may routinely vaccinate in non-free zones. The purpose of this map is to illustrate that worldwide, vaccination is seen as a key component of FMD control, containment, and eradication.



Source: WAHID, 2015: Control Measures Map.

- Country routinely vaccinates domestic animals.
- Country does not perform routine vaccination.
- Country routinely vaccinates domestic and wild animals.
- No information available.

Current FMD Virus Circulation

There are seven FMD virus serotypes: A, O, C, Asia 1, and South African Territories (SAT) types SAT1, SAT2, and SAT3. This map illustrates the current circulation of different serotypes. While clinical presentation does not differ greatly between serotypes, there is no cross-protection between serotypes. Cross-protection even within a single serotype is often extremely limited or does not exist.